TWO NEW SPECIES OF AMARYLLIDACEAE

W. F. Barker

(*Curator, Compton Herbarium, National Botanical Gardens of South Africa, Kirstenbosch*)

(With Plates XXIX–XXXII)

Boophane pulchra Barker. sp. nov. (Amaryllidaceae)

Bulbus magnitudinis moderatae, globosus, tunicis cartilagineis indutus. *Folia* 6, hysterantha oblonga obtusa, humo adpressa. *Pedunculus* robustus, circiter 6—20 cm. altus. *Umbella* ad 70-flora *Pedicelli* 4—8 cm. longi, erecti. *Perianthium* carbunculo-rubrum; segmenta aequalia, anguste oblonga obtusa, 2·6 cm. longa, 8 mm. lata, erecta, in tubo 4—5 mm. longo adnata. *Stamina* erecta quam segmenta longiora, 3·3 cm. longa; filamenta filiformia ad tubum perianthii adnata. *Ovarium* obtuse angulatum, mox latum et apice acute angulatum, sensim ad pedicellum reductum. *Capsula* membranacea ad 3 cm. lata et 5 cm. longa.

Bulb medium sized, globose covered with brownish cartilaginous tunics, neck short, 2 cm. long. *Leaves* 6, hysteranthous, 13—20 cm. long, up to 6·5 cm. broad, oblong, subacute, smooth, green with narrow red margins, two-ranked when emerging, but becoming completely adpressed to the surface of the ground and spreading. *Peduncle* stout varying in length from 6—20 cm. high, up to 2 cm. diam., slightly compressed, tinged red. *Spathe valves* 2, up to 6 cm. long and broad, ovate, obtuse or slightly emarginate, purplish-red. *Umbel* up to 20 cm. diam., up to 70-flowered. *Pedicels* reddish-brown, 4—8 cm. long, in young heads about 2 mm. diam. at base, the outer ones curving upwards so that the flowers are all erect and more or less at the same level. *Perianth* light ruby red, actinomorphic; segments 2·6 cm. long and up to 8 mm. broad in the upper half, narrow oblong obtuse, erect, adnate into a tube 4—5 mm. long. *Stamens* up to 3·3 cm. long, erect, longer than the segments; filaments filiform, adnate to the perianth tube; anthers dark, up to 3 mm. long. *Style* erect a little shorter than the stamens. *Ovary* obtusely angled in the very young stage, soon becoming broadly angled at the apex, tapering gradually into the pedicel. *Capsule* membranous, up to 3 cm. broad at the apex, emarginate, 5 cm. long. In the fruiting stage the pedicels straighten out and especially in the plants with the longer peduncles, they radiate out to form a large globose head.

Holotype. *W. F. Barker* 7311 in Compton Herbarium, National Botanic Gardens, Kirstenbosch (flowers and fruits) May 1951; *W. H. Hodge* A-156 in Compton Herbarium (leaf) March 1952.

Namaqualand. North of Darter's Grave, *W. F. Barker* 7311 (flowers and fruits) May 1951 (NBG); *W. H. Hodge* A-156 Hort. Glenn Dale, Beltsville, U.S.A. (leaf) March 1952 (NBG); Hort. Longwood Gardens U.S.A. P.I. 196775 (= *Hodge* A-156) (flowers) July 1959, (fruit) Aug. 1959, (leaf) Dec. 1959 (Longwood Gardens, U.S.A.); Darter's Grave *A. J. Middlemost* 2084 (fruits) May 1960 (NBG); Darter's Grave, *W. F. Barker* 9866 (flowers and young fruits) Aug. 1963 (NBG), Hort. Compton Herbarium (leaves) Aug. 1963 (NBG).

As far as is known this attractive and conspicuous plant has only been recorded from the vicinity of Darter's Grave, 22 miles North of Garies in Namaqualand.

It was first collected in May 1951, when Mr. A. J. Middlemost and I accompanied Dr. W. H. Hodge, then of the United States Department of Agriculture, on an expedition in search of plants which might contain cortisone. Herbarium specimens of the flowers and mature fruits were made at the time, and the accompanying photograph of the young inflorescence was taken by Dr. Hodge in the field.

With its actinomorphic flowers and angled fruits, the plant was identified as a possible undescribed species of Boophane. Unfortunately due to an oversight, no bulbs were kept at Kirstenbosch to grow for leaves, and when the bulbs grown at the Glenn Dale Plant Introduction Station, in Beltsville U.S.A. came into leaf in 1952, it was found that a mixture of bulbs with two distinct kinds of leaves were included under the same number, and there was some doubt as to whether the erect or the prostrate type corresponded with the original flowering and fruiting specimens.

It was not until Dec. 1959 that Dr. Hodge was able to send complete herbarium material, confirming that the prostrate leaves belonged to our plant. However the cultivated bulbs which had been moved again, this time to the Longwood Gardens, Pennsylvania U.S.A., had obviously deteriorated and the specimens were no longer typical. We therefore decided to make a hurried visit to Darter's Grave for more specimens in May 1963, when we were fortunate in finding some bulbs still in flower. Herbarium Topotype specimens were collected, bulbs were brought back to be grown at the Compton Herbarium, and it has now been possible to complete the description.

Boophane pulchra appears to be most closely allied to *Boophane haemanthoides* Leighton (*Boophone haemanthoides* Leighton) from Saldanha Bay, which differs from the other species in having erect perianth segments, in the former species however the perianth segments are much broader and the tube

BOOPHANE PULCHRA Barker

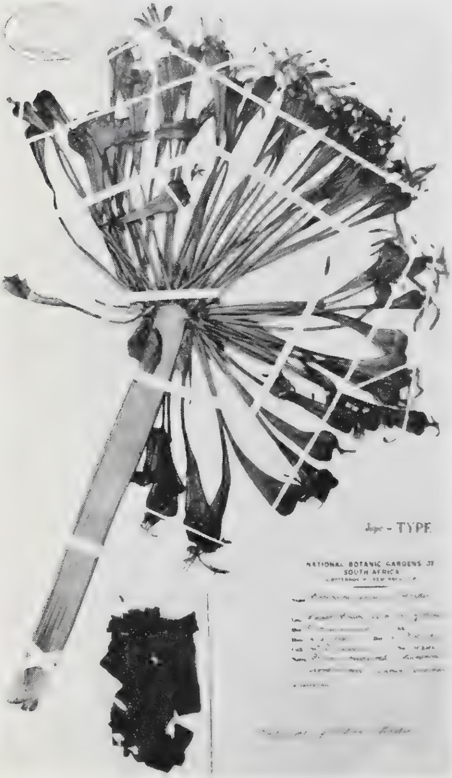

PLATE XXIX—FIG. 1.

Topotype sheet, Barker 9866 (young fruits) in Compton Herbarium.

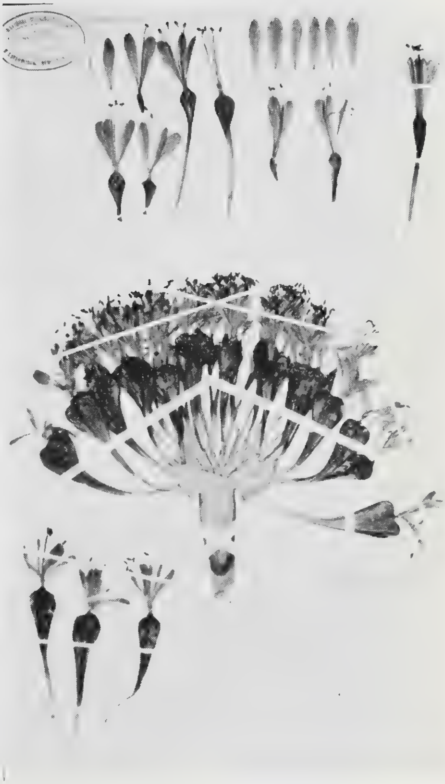

PLATE XXIX—FIG. 2.

Topotype sheet, Barker 9866 (old inflorescence and flowers) in Compton Herbarium.

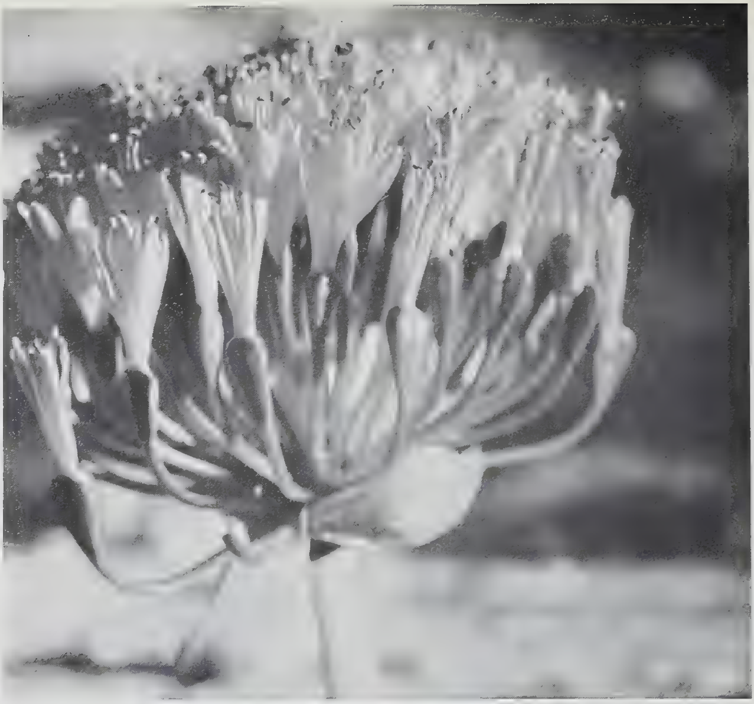

Plate XXX—Fig. 1.
Young inflorescence, Barker 7311. Photo: W. H. Hodge.

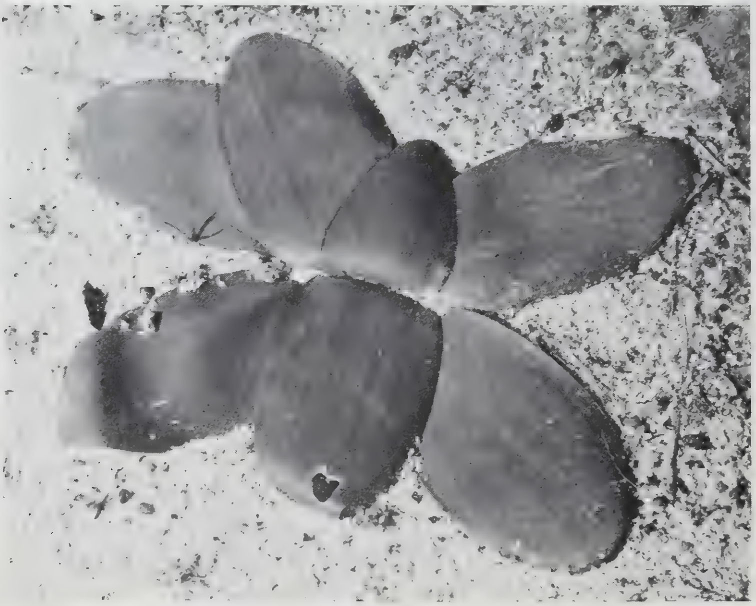

Plate XXX—Fig. 2.
Leaves of Barker 9866, grown at Compton Herbarium.
BOOPHANE PULCHRA Barker

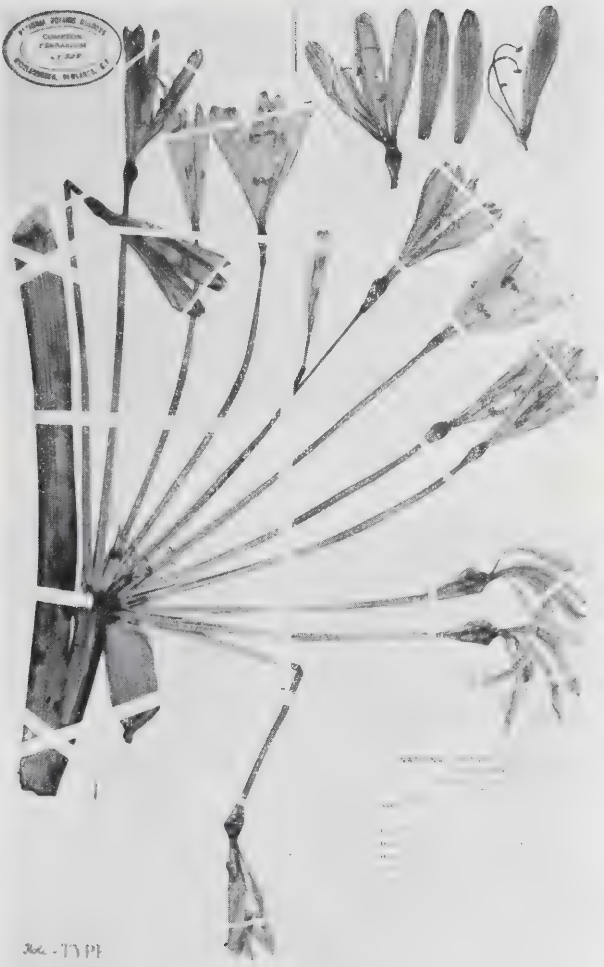

PLATE XXXI.
Holotype sheet in Compton Herbarium.
BRUNSVIGIA HERREI Leighton ex Barker

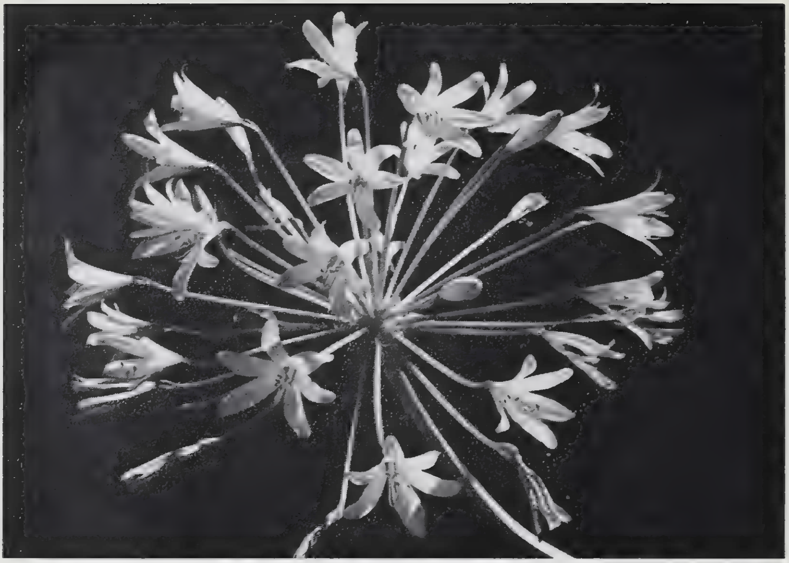

PLATE XXXII—FIG. 1.
Fully developed inflorescence.

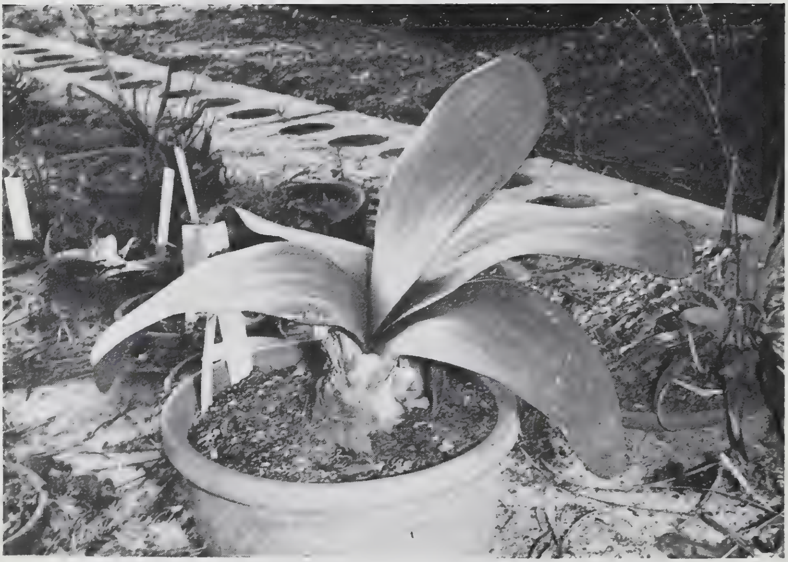

PLATE XXXII—FIG. 2.
Leaves: neck of bulb exposed above ground.
BRUNSVIGIA HERREI Leighton ex Barker

is not angled, while the spathe valves are smaller in proportion to the umbel, and the capsules are much larger and longer in proportion to their width.

Unfortunately the set of the leaves in *Boophane haemanthoides* was not described and so no comparison can be made with those of *Boophane pulchra*, which is unique in the genus as far as is known, in spreading out horizontally on the ground. When seen without flowers they can easily be mistaken for a species of *Brunsvigia*. In this respect *Boophane pulchra* also has an affinity with *Nerine marginata* Herb. which in addition has actinomorphic flowers, but its segments are spreading and not erect. A study of the chromosomes of these plants should produce some interesting results.

Brunsvigia herrei Leighton ex Barker sp. nov. (Amaryllidaceae)

Bulbus grandis, tunicis cartilagineis, collum etiam pars superior bulbi detectum. *Folia* 6, hysterantha; juniora erecta deinde diffusa, oblonga obtusa, glauca. *Pedunculus* ad 23 cm. altus et 1·5 cm. diam. *Umbella* ad 40-flora. *Perianthii* segmenta oblonga obtusa, pallide rubicunda, venulis atrioribus induta *Stamina* declinata, in ordinibus manifestis, longiora quam perianthium breviora, cetera dimidio longitudinis. *Ovarium* juvene obtuse 3-angulatum, deinde latum et apice acute angulatum. *Capsula* matura non visa.

Bulb large 10 cm. diam., covered with cartilaginous tunics, neck and upper part of bulb exposed. *Leaves* 6, hysteranthous, up to 20 cm. long and 9 cm. broad, oblong obtuse, glaucous green with narrow red margins; erect when young, finally spreading. *Peduncle* green, slightly compressed, up to 23 cm. high, 1·5 cm. diam. *Spathe valves* 2, ovate, pale greenish fawn, 6 cm. long, 3·5 cm. broad. Umbel up to 40-flowered. *Pedicels* pale green up to 18 cm. long, 5 mm. diam near base, tapered above, radiating to form a globose head. *Perianth* pale delicate pink with deeper veins and pale greenish keels; segments regular, oblong obtuse, up to 5·5 cm. long and 1·2 cm. broad; tube deep pink at base, 3 mm. long. *Stamens* declinate, in two distinct rows, the longest shorter than the perianth, the rest half as long; filaments without appendages, adnate to the perianth tube; anthers 5 mm. long before dehiscing. *Style* eventually slightly longer than the stamens. *Ovary* obtusely angled when young, ovate, 6 mm. diam., becoming acutely 3-angled, oldest 1·3 cm. broad when the last bud had opened. Capsule when fully developed not seen.

HOLOTYPE. *H. Herre* 3368 in Compton Herbarium, National Botanic Gardens, Kirstenbosch No. 67528 (flowers) March 1963, (leaves) Aug. 1963.

NAMAQUALAND. Eselsfontein, Springbok, *H. Herre* 3368 (flowers) March 1963 (NBG and STE), (leaves) Aug. 1963 (NBG and STE), (flowers) March 1932 (BOL), (leaves) Sept. 1932 (BOL), (flowers) April 1933 (STE), (flowers) March 1934 (BOL), (leaves) Sept. 1934 (BOL), (flowers) April 1935 (BOL), (flowers) March 1936 (BOL); Breekpoort, Steinkopf, *H. Herre* 3367 (flowers) March 1932 (BOL 23716); Bysonderend, Steinkopf Kloof, *H. Herre* 3369 (flowers with leaves added later) March 1932 (BOL).

This may be the *Brunsvigia* sp. mentioned by R. A. Dyer at the end of his review of the genus *Brunsvigia* Heist., in Plant Life, Vols. 6 and 7 (1950–1951) on p. 64 Vol. 7. The bulb from which the type specimens of *Brunsvigia herrei* were obtained, was collected in 1929 by Mr. H. Herre at Eselsfontein in the Springbok area, and had been cultivated in the Stellenbosch University Garden ever since. A number of specimens of inflorescences and leaves was sent to the Bolus Herbarium at various times for identification, where they were preserved and given the manuscript name *Brunsvigia herrei* by F. M. Leighton. In March 1963 one of the original bulbs was brought to the Compton Herbarium when in flower, where the inflorescence was photographed, described and preserved, and the bulb grown for leaves, in order to complete the type specimens and prepare the description for publication. Unfortunately it was not possible to obtain specimens of the mature capsules as well.

It has been noted that the inflorescence is larger than those of the earlier specimens in the Bolus Herbarium, and that the bulb is large and not medium sized as mentioned by Dyer. But the earlier inflorescences were preserved at a younger stage, and the larger size of the bulb can be accounted for after 32 years in cultivation.

Characters which assist in distinguishing the species are, the broad, obtuse scarcely undulate perianth segments, the stamens which are arranged in two very distinct rows, the short ones being only half as long as the rest, the few erect to spreading leaves, and the large bulb with the neck exposed above ground.